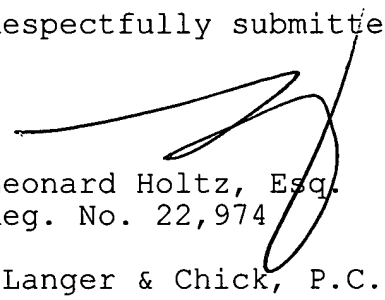
R E M A R K S

A copy of the marked-up pages showing the changes made to the specification is attached hereto. No new matter has been added.

It is respectfully requested that prosecution on the merits now proceed.

Respectfully submitted,



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to the engineering and service department through the client web page, which is provided to the client terminal 24 of the major subsidiary by the technical support system 1.

In the engineering and service department, in step ST110, the technical support system 1 confirms and verifies the content of the claim report. In step ST111, it is checked whether there is a solution to the claim. If it has been determined in step ST112 that the solution is present in the database, an answer document based on this solution is sent to the major subsidiary in step ST113. On the other hand, if the solution is not present, the claim report is escalated to the product technology department at the upper service level in step ST114. In a case where the product technology department comprises, for example, a product planning section, a design and manufacturing section, and other sections, one of these sections is designated and a solution to the claim is requested therefrom. In FIG. 4, all the steps beginning with step ST110 are carried out within the technical support system 1.

FIG. 5 illustrates a reporting process for an unformatted claim such as a claim report issued in the dealer. This reporting process is a process to be performed within the technical support system 1. If the reporting process is selected on the client

web page, the CH section 14 performs, in step ST201, a knowledge base search for confirming the presence of similar claims specified by information available from the claim content input to the client web page in a format close to a natural language, for example, information on product units or problems. In the knowledge base search, product units and problems expressed in various local languages are converted to unit codes, [and] problem codes, AND ERROR CODES using synonym tables shown in FIGS. 6, 7 and 8. The KB section 16 is searched on the basis of these codes. If it is determined in step ST202 that a solution to the similar claims is present in the KB section 16, an answer document based on this solution is automatically produced in step ST203 using a response assistance module 14A. In step ST204, the answer document is issued to the major subsidiary. In this case, the response assistance module 14A produces the answer document so as to meet the technical support policy which differs from market to market. Aside from the above-mentioned synonym tables, it is possible to use tables applicable to cases where different model numbers are assigned to the same models in accordance with different countries. In the synonym tables shown in FIGS. 6 and 7, English and Japanese synonyms are associated. However, these tables may be provided as conversion tables for unifying languages within the system by converting

languages such as Japanese or German to English, or a standard language. Thereby, it becomes possible to find a solution to similar claims from major subsidiaries managing other market regions.

On the other hand, if a solution to the similar claims is not present in the KB section 16, a claim report is newly produced in step ST205 using a report assisting module 14B. The claim report is issued in step ST206. The report assisting module 14B automatically incorporates into the claim report the information available from the content of the claim input to the client web page, and requests input of information which is necessary for a study of a solution by the engineer but is lacking. Based on the information input in response to this request, the claim report is formatted. Specifically, as shown in FIG. 9, the production of the claim report requires information such as a) report source, b) rank of importance, c) claim category, d) claim title, e) claim details, and f) situation.

FIG. 10 shows details of items c, d, e and f incorporated in the claim report. Item c is prepared for searching for similar claims from a claim category on the basis of simple coincidence of keywords and codes, and item c includes a product model, a problem code, a unit code, a cause code and an error code. Item d is prepared for searching for similar claims on

the basis of the claim title, and item d is produced as a phrase constructed by combining words indicative of definition information items such as a problem, a position and a cause. Examples of the claim title other than that shown in FIG. 9 are "Dark copy image due to poor adjustment in optical unit", "Abnormal noise from drive gear in fuser unit", and "Breakage of front cover due to poor package material." Item e is prepared for searching for similar claims based on claim details and is produced as a free description including items such as a problem, position/related unit, cause and treatment. Item f is prepared for searching for similar claims based on situations, and it is produced to include a part number, software version number, part number indicative of a problem part, and total copy counter value.

FIG. ~~10~~ 11 illustrates a reporting process for a formatted claim such as the claim report shown in FIG. ~~8~~ 9. This reporting process is a process to be performed within the technical support system 1. This process is performed when the claim report has been issued in the reporting process illustrated in FIG. 5 and when a formatted claim report has been input by choosing on the client web page. In this reporting process, the CH section 14 performs in step ST301 a search for the claim report on the basis of the claim category, claim title, claim details and situation.

If it is determined in step ST302 that the claim report has already been registered in the KB section 16, an answering document is automatically produced in step ST303 using the answer assisting module 14A and it is issued to the major subsidiary. In this case, where there is a solution to the claim report, the answer assisting module 14A produces an answering document based the solution. Where there is no solution, the answer assisting module 14A produces an answering document based on the state of progress in the supporting task.

On the other hand, if the claim report is not registered in the KB section 16, the content of the claim report is checked in step ST304 as to whether there is an item missing. If there is a missing item in step ST305, the input of this item is requested on the client web page in step ST306. After the input of information of this item is detected in step ST307, the KB section 16 is searched once again. If it is determined that the claim report is not registered in this case, too, it is confirmed in step ST304 that there is no missing item. Then, in step ST308, the claim report is newly registered in the KB section 16.

Subsequently, in step ST309, the CH section 14 performs a division designation process for assigning a supporting task to a division-in-charge in the product technology department, which is responsible for

of the supporting task and the division-in-charge is automatically recorded by the CH section 14. The data on the scheduled date of supporting task start, the date of supporting task start, the scheduled date of supporting task completion, the date of supporting task completion, the supervisory engineer and the staff engineer are input and recorded on the engineer web page. On the engineer web page, the work schedule table stored in the MDB section 18 can be referred to so that the schedule of each engineer in the division-in-charge may be checked. Furthermore, in step ST311, the most suitable engineer for solving the claim is decided in consideration of the field-in-charge, experience and technical level. Besides, a message to the effect that a solution to the claim report is now being studied and a supporting task schedule are sent to the subsidiary.

The above-described claim reporting process is finished in step ST312 in which the data on the scheduled date of supporting task start, the scheduled date of supporting task completion, the supervisory engineer and the staff engineer is input and recorded on the engineer web page.

FIG. 12 shows a stepwise transition of a market countermeasure task carried out for the claim report carried by the whole product technology department. If the claim report is accepted in the product

technology department, the content of the claim report is confirmed and verified in a first step VR. The cause is investigated and its solution is estimated in a second step CE. Trial production and effectiveness test of a countermeasure part is carried out in a third step ET. If the content of the claim requires part alternation in the future, parts of the countermeasure are prepared for market application in a fourth step, and effectiveness of the countermeasure parts in the market is monitored in a fifth step.

The CH section 14 has a function of presenting the state of progress in the market countermeasure task in a visible format as shown in FIG. 12. The results of the verification step VR, investigation and estimation step CE, trial production and effectiveness test step ET, and market application part preparation step CP, and countermeasure effectiveness monitor step MN are delivered as task reports to the technical support system 1. In the technical support system 1, the state of progress in the market countermeasure task is indicated by a status or percentage, and is sequentially changed based on task reports, like VR, CE, ET, CP and MN. In addition, the state of progress in the market countermeasure task may be managed with task sheets, by which the master status shown in FIG. 13, for example, is automatically changed within the technical support system 1. The CH section 14

division, the next subtask can be started without delay, immediately after acquisition of the task result. Therefore, the claim concerning the product can speedily be solved as a whole.

Moreover, the new claim report in which at least a claim title is structured as a combination of predetermined items of definition information on the basis of the claim content input to the client web page is registered in the knowledge base section, and is managed as an unsolved claim requiring an answer from the engineer. Therefore, it can be checked with a high precision whether or not a solution is already available with respect to the claim report. If the solution is found by a search, the claim can quickly be solved based on the solution. Accordingly, labor of the engineer required for verifying a necessity of the market countermeasures can be saved.

The state of progress in the market countermeasure task is visualized by status or percentage, and is updated upon receipt of each task report, in a sequence of VR, CE, ET, CP, MN shown in FIG. 12. Therefore, it is easy to grasp the progress state.

As for the claim report that exists in the KB section 16 but has no available solution, the progress state of the ~~supporting~~ MARKET COUNTERMEASURE task is included in the answer document. Thus, clients such as the subsidiary can easily know the time needed to obtain a solution.